Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of manufacturing a honeycomb structure having honeycomb segments of a prism shape provided with numerous circulation holes, the method comprising:

a masking step of attaching masking materials to both end surfaces of the honeycomb segments;

a stacked body bonding step of bonding the honeycomb stacked body by bonding the plurality of honeycomb segments together while interposing adhesive layers therebetween;

an adhesive layer drying step of integrally fixing the honeycomb stacked body by heating and drying the adhesive layers;

a masking material separating step of separating the masking materials;

a grinding step of grinding an outer peripheral portion of the honeycomb stacked body into a predetermined shape after the masking material separating step; and

a coating material applying and drying step of forming a coating material layer by applying a coating material to the outer peripheral portion of the honeycomb stacked body and then drying the coating material layer.

2. (Previously Presented) The method of manufacturing a honeycomb structure according to claim 1,

wherein at least the outer peripheral portion of the end surface of the honeycomb segment is covered with the masking material.

3. (Currently Amended) The method of manufacturing a honeycomb structure according to claim 2,

wherein ~~the~~ an adhesive member comprises a base sheet and a sticky agent to be attached to at least one surface side of this base sheet, and

the adhesive member is bonded to the end surface of the honeycomb segment through the sticky agent.

4. (Withdrawn) The method of manufacturing a honeycomb structure according to claim 3,

wherein at least any one of the base sheet and the sticky agent is made of a heat degradable material which is degraded by heat in the adhesive layer drying step.

5. (Previously Presented) The method of manufacturing a honeycomb structure according to claim 3,

wherein the base sheet is made of a heat shrinkable material which shrinks by heat in the adhesive layer drying step.

6. (Withdrawn) The method of manufacturing a honeycomb structure according to claim 3,

wherein at least any one of the base sheet and the sticky agent is made of a photodegradable material which is degraded by irradiation of ultraviolet rays, and

the ultraviolet rays are irradiated prior to the masking material separating step.

7. (Withdrawn) The method of manufacturing a honeycomb structure according to claim 1,

wherein an adhesive layer of a tape is bonded to the masking material and a base of the tape is detached from the end surface with the masking material in the masking material separating step.

8. (Previously Presented) The method of manufacturing a honeycomb structure according to claim 1,

wherein the end surface attaching the masking material is subjected to brushing in the masking material separating step.

9. (Withdrawn) The method of manufacturing a honeycomb structure according to claim 1,

wherein the masking material is suctioned from a position close to the end surface attaching the masking material in the masking material separating step.

10. (Withdrawn) The method of manufacturing a honeycomb structure according to claim 2,

wherein block-type adhesive members each including a flat surface having substantially the same shape and size as the end surface of the honeycomb segment, and a separation gripper, are bonded to the both end surfaces of the honeycomb segment in the masking step, and

the grippers are detached from the end surfaces in the masking material separating step.

11. (New) The method of manufacturing a honeycomb structure according to claim 1, wherein the stacked body bonding step is performed after the masking step.

12. (New) The method of manufacturing a honeycomb structure according to claim 1, wherein the masking material separating step is performed after the adhesive layer drying step.

13. (New) The method of manufacturing a honeycomb structure according to claim 1, wherein the coating material layer is applied at the outer peripheral portion of the honeycomb stacked body after the grinding step.